

Neonate Puppies

The following article by Charla Hill, of Charthill Scotties, originally appeared in the quarterly magazine of the Scottish Terrier Club of America, The Bagpiper, and is being reprinted with their kind permission.

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Here is a fact that we have to live with. Most of us are not vets, mid wives, nurses. We do the best we can. Trouble is puppies are not born under the front porch and entirely taken care of by the dam; we have to assist. So, now that your puppies are just born, what do you do?

BE VIGILANT

As a mother hen, I stopped having babies, and started having puppies, and I say hang over the whelping box! I can never understand when someone goes back to work, or out to lunch when their puppies are less than 12 hours old. I can never understand when someone says, "My bitch won't let me near those puppies". Puppies die anyhow; that is life, but when we can intervene to maintain their well being, I say, Intervene! Bitches are for the most part born with strong mothering instincts, but they don't have antibiotics and tubes for feeding if a puppy is stressed during the whelping or is small. And, for the bitch that was born with none of the instincts, the mother with her first pups, for example, has to be taught.

ASSIST THE BITCH

I remember my first litter. The bitch had been already C sectioned once when we bought her, and so we opted for a C section again, rather than risking a ruptured uterus or worse. Home and feeling better, she would walk away from the puppies and turn her back. Now, I don't know what happened with the first litter she had, but she wasn't interested in these puppies. My instincts told me, I was not going to feed them, she had milk, and she was going to do it. I grabbed her beard as she was turning her back, and I screamed in her face. "You will take care of these babies!" She did. That was the last time she ignored them. Sometimes you have to make them understand.

SURVIVAL OF THE FITTEST??

There is a strong argument for survival of the fittest, but this isn't the middle ages or a fact of evolution. We have the tools to assist survival. Because a puppy is small may not necessarily be due to genetics. It could be among other things that the placenta was poorly located, or the bitch had a huge litter.

The breeder isn't called that for no reason. A breeder is one who oversees the result of the mating. That is why the stud owner isn't called the breeder. It is the breeder's job to do all he/she

can to insure that the puppies survive. Sometimes there are things that happen due to management, not nature. These can be reversed, and puppies live long healthy lives.

SUPPLIES NEEDED

There is certain equipment a breeder should have before puppies are born. After tube feeding an entire litter for 3 weeks because the dam had eclampsia, I know that to be prepared is essential for a puppy to survive. Beg, borrow or buy the following:

- An indoor/outdoor digital thermometer. (the outdoor cord with sensor goes in the bottom of the box under the bedding to tell you what the temp is, and the indoor tells you the room temp. A cold puppy is a dead one, but by the same token you don't want to cook them either.)
- A gram scale that weighs up to 1,000 grams. (Your search for this should be a mission) and draw a chart with columns to record weights.
- A #5 French human preemie silicon tube or veterinary red rubber feeding tube in a pinch, as the human kind is so much better . For these you may need a vet prescription or referral to a hospital supply business. Buy at least two
- 12CC syringes that fit the end of the feeding tube for the first week and larger ones for the end of the second and third weeks.
- Milk replacer, I use Esbilac. (There are many tales about the various brands, but my puppies have always tolerated Esbilac with no side effects.)
- A rectal thermometer.
- All the books on whelping and rearing puppies you can put your hands on. My favorite is The Joy of Breeding Your Own Show Dog by Anne Serranne. Read them two or three times. Just remember there are some differences between breeds.
- A thick fleecy material that the litter can rest on, better have at least 4 pieces.
- A piece of foam egg carton type mattress padding to put under the fleece. This will keep the puppies supported better with less risk of going flat.
- Supplemental heat. I use a doggy heating pad. Too much heat can cook puppies, but if you have the thermometer, and a rheostat control, monitoring all the time, you shouldn't have a problem. I have an Electro kennel which fits the bottom of the whelping box. Temp should be max of 90o but min of 85o the first 5 days. I prefer this to a heat lamp.
- A veterinarian you can call day or night. This is getting harder and harder to secure.

IT WON'T BE LONG

The most important part of Neonate care is to be vigilant. When after spending the entire night whelping the pups, the body needs to rest, but resist the urge to fall into a deep sleep. If you have an offer of help, take it. With my daughter as an infant, after being wakened frequently during the night, changing multiple diapers, I said to myself, "This could last several years."

Fortunately, newly born puppies only take several weeks of intensive care. You can get used to it for this short time.

WEIGHING THE PUPPIES

Birth weight is often misleading. If you put the newborn on a scale right away, then 8 hours later it has lost weight, it may only be fluid loss, as newborn puppies are very saturated, and often when dry they drop several grams. I generally wait until all the puppies have been born.

Keep a weight chart. Make a column for each puppy. You should have made some sort of identifying mark on each one when it was dry after being born. I use common nail polish. It is never toxic, and lasts. We have marked our puppies like this, dot head, dot withers, dot back, two dot back, etc. You get the idea. When I look into the whelping box at first glance I can see who is nursing, and who is not. I can tell which puppy is which. Of course, if there are different colors of coat, then it is even easier. I prefer this to anything around the neck. It can become caught and possible strangulation could occur.

The first 48 hours is critical. A puppy who loses 10% of its birth weight is probably in trouble. In Anne Serrane's book there is an excellent description of how to use a home made glucose oral solution to save a puppy who isn't strong enough to suckle efficiently. I have used this frequently. A puppy doesn't fall asleep because it is full. It lacks the energy to stay awake.

A puppy is born with very low glycogen stores in the liver (that's the storage form of glucose) and so they are totally dependant on external sources of energy in the first few days. It's not that the liver (with the action of insulin) is incapable of converting glucose to glycogen. Instead every bit of glucose that the pup takes in is USED up so there is nothing to spare. And there is no subcutaneous fat to use as energy stores either. So pups can become hypoglycemic very easily. Waking a puppy before it wakes itself, and putting it to a nipple can be helpful in pushing the pup to gain. Also a smaller pup who is shoved out of the way by bigger brothers needs that extra time without competition.

For the first 48 hours, a puppy should be nursing almost 50 minutes of every hour. If this seems excessive, for some of that time the pup will probably be asleep with the nipple in its mouth. They seem to like to hang on to the food source. After 48 hours they are content to slide off and sleep by the dam's side. The amount of time spent suckling will gradually decline as the pup grows and can take more food each time. Don't be tempted to feed milk replacer, but use the glucose solution for energy to continue to suckle.

The weight gains can be small during these first two days, but there should be some small gain, or at least no loss. I weigh every 12 hours for the first two days, more frequently if I suspect trouble. To see how much a puppy is taking at each nursing, you can get a rough idea by weighing before it takes the nipple, and then weighing again when it falls asleep. A close estimate is that each gram the puppy gained is approximately a CC of liquid. If the puppy is sucking and doesn't show gain, it means that it is an ineffective nurser, and a candidate for supplementing.

A puppy who doesn't gain, but continues to lose weight, should be pushed. I have taken a small syringe, pulling on the milk gland, squeezing out a drop or two and sucking it into the syringe. I have taken 2 or 3 CCs of the mother's own milk this way and tube fed that. I don't feel comfortable using a milk replacer for the first 2 days. Once you hit the third day, go to Esbilac.

By the third day, if you are seeing a gain, a puppy should be gaining roughly 30 grams in 24 hours. There are puppies who are little hoglets, and they gain 50 or 60 grams daily. This can be exceptionally dangerous for the Scottie pup as they soon become too large for the skeletal structure to support them. That can lead to Flat Puppy syndrome. This can be life threatening. If you have a single pup or only two, often this is a problem since they have all the "dinner plates" to themselves. At the point you see too much weight gain, let mom come into the kitchen while the puppies sleep for awhile, and monitor that gain closely. One or two days of this kind of weight gain isn't harmful; it's when it continues over three or four days or more.

Furthermore, overeating can cause a puppy to pass a thick, yellow, very smelly bowel movement that even the mom doesn't want to clean. Some people are worried that this is a kind of diarrhea which they don't know how to cure. Less feeding time may cure the problem.

This also can occur with newborns who have an underdeveloped digestive system, and it generally clears in a day or so. If you take mom out of the box the puppies will whine and squeal. Clump them together and lay a piece of fleece over them for comfort which you will remove when mom returns. It will make them think they are still with her and protected.

DON'T BE AFRAID TO TUBE FEED

Yes, it sounds so scary! But it is so easy! Remember, if the puppy can squeal when the tube is inserted, it is in the esophagus leading to the stomach, not the trachea (windpipe leading to the lungs). I got a call from a panicked breeder. "My puppies are dying." They aren't gaining weight." I asked, "are they losing?" "No, but they don't gain either." My answer was that they weren't getting enough milk nursing, and that they would have to be tube fed. The reply was "I can't do that". I said, "You have to or they will die for sure. Better you kill them trying, than letting them starve to death." Don't wait too long. Don't wait until those puppies have gone too long with no gain. There are diagrams in every good whelping book on how to do it. Your veterinarian can also assist you in learning how.

Some breeders like to bottle feed. I have thought often that seems more natural. My last litter had to be tube fed, due to the fact that the mother had eclampsia, I had already tried the small nurser bottles sold in the catalogs for dogs. They didn't work. I went to the baby section of my local Walmart. I bought three different types of baby bottles. Those puppies HATED it. They would not agree to taking the hard and inflexible nipple in their mouths. I went back to the tube.

Baby bottles don't give you an exact measurement of how much milk is being ingested; a syringe with tube attached is a certain amount. The puppy may fight the tube at first, but it is so fine, that it slips down the throat very easily. If the puppy is fussy, put the pup on your lap with the front feet on your knee and the head elevated. Take the puppy's head completely in your opposite hand like a ball, and rock the head very gently as you insert the tube. This has a great calming effect.

FLAT PUPPIES

Much has been written on this topic. It is my idea that one of the common reasons in part, is the lack of calcification of the ribs coupled with weight gain. When a puppy is born, the bones are

really soft and pliable, rather like the cartilage in the human ear. As the puppy grows, the bones harden and take in calcium. With a heavy bodied breed, such as the Scottie, a puppy may have some delay in this process. Also, the ribs are connected with cartilage toward the pup's sides and can fold at that point. The heavy body, with a stomach full of milk, while laying face down, may have a problem. The ribs are just too soft to hold the weight of that puppy. Naturally, they will not often stay on their backs like human babies. Flat puppies often have a ridge at each side which can be felt that is very pronounced, as the sternum(breast bone) collapses inward. As the puppy fills its stomach, there is nowhere for it to go but upward toward the diaphragm and lungs causing pain. Often the puppy starts to nurse, screams and stops. It is the pressure on the diaphragm that causes the pain.

We once x-rayed a compromised puppy. The stomach had pushed the lungs upward, displacing the heart almost into the throat. That puppy was gasping and turning blue. With oxygen, he did better, but still did not survive. The lungs, which normally float free in the rib cage, were being scratched against the ribs with every breath. He ended up with pneumonia. His cry was sharp like a bird. He was in great pain.

Those puppies can survive. The idea is to help them until they grow and calcify enough to support the body weight. It is critical at that time that the puppy not gain much more than 30 grams in 24 hours, and the bedding must not be flat. The bedding should be very spongy, and not press against the chest. A puppy with this problem can be held up in the hand with the forefinger and thumb supporting the front legs while the back feet dangle. Gravity puts the organs in the right place and takes the pressure off the diaphragm. This puppy may also need more oxygen.

It is possible to obtain a small tank of oxygen, but today, one needs a prescription. A veterinarian can supply that. It isn't inexpensive, but may be worth the cost. It is possible to construct a small mask by cutting off the top third of a small pop bottle. Drill a hole in the cap for the tube, and tape the rough edges. This can be placed over the puppy's muzzle while the puppy breathes.

The veterinarian can also prescribe something for pain. This puppy can relax, and when he falls asleep can be placed on his back. That will take the pressure off of the chest. While it is normal for the puppy to sleep on its chest, you will see these stressed puppies trying to raise their heads up the side of the dam and stretching themselves. When they are relaxed they can be placed on their backs. For puppies that will not stay in this position, place some strips of foam under the bedding in the box for them to pull themselves up. These puppies will do better when tube fed as the puppy can be held upright taking pressure off the diaphragm.

FADING PUPPIES

They are those who do not nurse vigorously, seem different in the hand, more limp, and fade away. Sometimes they make no noise, but more often they cry pitifully. They are very hard to save, as there is generally something wrong. Either there is bacteria, virus, or physical deformities internally. Generally these puppies have a good weight gain at first, but then slow down. If you see no weight gain for 24 hours, it is time to intervene. Check the puppy's temperature. It seems like a human rectal thermometer is huge for the puppy, but with Vaseline, it will slide in easily. Take the temp of one that appears normal to get a baseline. If the

compromised puppy is appreciably lower, do not tube feed with milk replacer, use Pedialyte, bought in the baby section at the pharmacy. A chilled pup cannot digest well but needs fluids to avert dehydration. Warm that puppy very slowly, and when the temp is the same as the others, you can tube feed it. At the same time, use a broad spectrum antibiotic. If the puppy has contracted a bacteria, it can help. I use Cephalexin liquid, and adjust the dosage to the puppy's weight mathematically. I mix it with Pedialyte and tube feed, so I know that all the medication has been delivered. If you pay close attention to how puppies cry, you can tell whether it is life threatening, an upset stomach, like colic, or if they are just too hot. You can also tell if the puppy is mad, and for example, has found himself stuck in the corner behind mom.

If after 24 hours, you don't see the puppy improve, it will probably not survive. That is the hardest part, watching a seemingly perfectly formed puppy fade away and die. We are not God, and we have to know that there is a reason, albeit we may not understand. I do not separate the puppy from the dam. Some books say that the dam will push the weak puppy to the side, but I have found some Scottie bitches are worried about the puppy who isn't doing well. Removing the puppy often causes them to be unsettled, restless and looking for that pup.

By the same token, I have left the puppy in the box, and in two instances, the dam has put her whole body over the puppy suffocating it, and putting it out of its misery. I think they are smarter sometimes than we think. In one instance, I removed a puppy which had just died, and the dam was looking for it and whining. I put it back, she sniffed it all over, pushed it to the side, and about an hour later, I was able to remove it with no problem. She had decided that it wasn't going to live. Their philosophy on death and dying is quite straight forward. They never mourn very long, and their attention immediately turns to the puppies which need her. We can learn by their example.

PROVIDING WARMTH

While visiting a breeder in Scotland who had a litter of 5 born the day previously in March, I saw a whelping box on legs very similar to mine. It had below an agricultural radiant heater under the box. The heat came through the floor. While the room was a comfy 75o by the fireplace, which heated the room, the box floor radiated heat upwards. The dam was comfortable, not panting, while the puppies were safely warmed.

I have been successful with the Lectro Kennel in the bottom of the box under the bedding. With the indoor/outdoor thermometer, I monitor easily. If the temperature is too high, the pups are restless and generally have a whiney cry. This happens more often in summer when the temperature is already warm enough, but breeders add heat for good measure. If the home is air conditioned, you may need more warmth. Often by closing the register in the room, and opening the window, it can be warm enough.

I know many different methods which breeders use for supplementing warmth, Some breeders use a human heat lamp, but since it shines over the dam as well, she may want to leave the puppies more often if she is too hot. I have also read about fires caused by these lamps. There is a light lamp used for piglets, which can be mounted over the box, but again the dam can be too

warm. Several breeders have used a human heating pad but there is danger with a bitch that she may chew and sever the wires which could even cause electrocution.

Puppies cannot regulate their own body temperatures at first, and have no shiver mechanism developed. The temperatures I go by are to keep the box at 85-90o the first week, lowering by 5o for each week following. That should bring it to about 75o by the third week. Toward the end of the third week, puppies are urinating by themselves, and unless it is winter and still very cold, the heating pad can be turned off.

If after taking the heating pad out, the puppies are not up on their feet, you can use the rubberized material which is sold to keep rugs in place, or in cabinets to set crystal on. It is lacy like, and very sticky in feel. It gives great traction, and is machine washable. I lay it over newspaper so puppies can get footing to do their business. Puppies whose back feet slide out beneath them will be able to navigate easily on this surface.

There are many other difficulties which can occur while puppies are very young, and they are discussed at length in many of the books available. Hopefully all your litters will be sturdy and healthy and grow into champions. The more litters you have, the more problems you will encounter, but take heart and stay the course. There is nothing more rewarding than breeding your own champion.